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Selection and Influence Effects in Defending a Victim of Bullying: The Moderating Effects of School Context

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Abstract

In this paper we examined whether defenders of victims of school bullying befriended similar peers, and whether the similarity is due to selection or influence processes or both. We examined whether these processes result in different degrees of similarity between peers depending on teachers' self-efficacy and the school climate. We analyzed longitudinal data of 478 Swiss school students employing actor-based stochastic models. Our analyses showed that similarity in defending behavior among friends was due to selection rather than influence. The extent to which adolescents selected peers showing similar defending behavior was related to contextual factors. In fact, lower self-efficacy of teachers and positive school climate were associated with increased selection effects in terms of defending behavior.

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Keywords: SIENA; defending the victim; school bullying; school climate; longitudinal study

1. Introduction

School bullying has been defined as an aggressive, repetitive behavior against a victim who cannot easily defend him or herself Olweus (1996) and to be associated with serious health problems (Vieno, Gini & Santinello, 2011) and poor academic adjustment (Wang, Iannotti & Luk, 2011). It has repeatedly been described as a group phenomenon (Salmivalli, 2010; Sutton & Smith, 1999) in which, as well as the victims and the bullies, other peers play a crucial role (Brown, Birch & Kancherla, 2009; Hawkins, Pepler & Craig, 2001). Peers

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witnessing bullying take on various roles, ranging from active participant to passive onlooker (Hawkins et al., 2001). Salmivalli and colleagues (Salmivalli, Lagerspetz, Björkvist, Österman & Kaukiainen, 1996) proposed different participant roles: (1) the reinforcer of the bully (provides the bully with positive feedback), (2) the assistant of the bully (assists in bullying the victim), (3) the outsider (remains uninvolved, thus silently endorsing the bullying), and (4) the defender of the victim (takes the victim's side). Promoting defender behavior plays a central role in intervention programs (Kärnä, Voeten, Poskiparta & Salmivalli, 2010; Sainio, Veenstra, Huitsing & Salmivalli, 2011). However, it has been shown that teachers' clear communication of rules regarding defending behavior is rather inefficient (Rigby and Johnson, 2006). In fact, there is evidence that the decision to defend the victim depends on having friends showing similar defending behavior (Salmivalli, Lappalainen & Lagerspetz, 1998) and the authorities' support for doing so (Rigby & Johnson, 2006). The aim of the present study was to test, first, whether defenders befriend similar peers and whether the similarity between befriended peers in defending was due to selection or influence processes or both, and second, whether teachers' self-efficacy and school climate were related to peers' similarities in defending.

1.1. Defending behavior: Chances for victims but risks for defenders?

Defenders of the victims appear to be different from peers engaging in other participant behaviors; they respond more empathically to their peers (Gini, Albiero, Benelli & Altoè, 2007; Pöyhönen, Juvonen & Salmivalli, 2010), have higher-self-esteem (Salmivalli, Kaukiainen, Kaistaniemi & Lagerspetz, 1999) and show higher levels of social self-efficacy^a (Gini, Albiero, Benelli & Altoè, 2008a). Defending behavior has highly positive effects on the victims. In a recent study, victims who had at least one classmate defending them, when victimized, were less anxious and had higher self-esteem than victims without defenders, even when controlling for the frequency of victimization (Sainio et al., 2011). Even if a majority of the bystanders is negative towards bullying and has positive attitudes towards the victims (Boulton & Bucci, 1999) most bystanders do not defend the victims (Hawkins et al., 2001). In fact, the percentage of students who actively defend victims is estimated to be between 17% and 20% (Salmivalli et al., 1998). Previous research has shown that it is not at all easy for peers to defend victims. First, the fear of becoming the next target of bullying may be a reason for not taking supportive action (Lodge and Frydenberg, 2005). Second, defending behavior in the context of bullying differs from more general prosocial behavior in every-day life (Pozzoli & Gini, 2010). It may be characterized as risky behavior in the sense that the defender confronts a powerful bully, with his reinforcers and assistants (Pozzoli & Gini, 2010). Actually, students may lack the confidence to defend the victims if support from their peers is perceived as low, as the following example illustrates: *"No one else stuck up for her. If someone else had stuck up for her, I would have stuck up for her as well."* (Lodge & Frydenberg, 2005, pp.333) That is, peer support and friendship networks may play a central role in defending behavior.

1.2. The role of peer support and friendship networks in defending behavior

Even though bullies and defenders seem to have a similar high status position in the classroom (Sainio et al., 2011) students who defend do not experience as much immediate peer support from their peers as bullies get from reinforcers and assistants (Camodeca & Goossens, 2005; Salmivalli et al., 1996). However, emotional support from friends (Porter & Smith-Adcock, 2011) and perceived expectations of friends have been shown to be central to students' inclination to defend victims (Rigby & Johnson, 2006).

In fact, Salmivalli and colleagues (Salmivalli, Huttunen & Lagerspetz, 1997) found that defenders do seem to befriend other children engaging in defending behavior and that defenders are less likely to be friends of bullies or of bullies' friends (e.g., reinforcers and assistants). Moreover, Salmivalli and colleagues (1998) showed that children who had a friend who defended victims tended to engage in defending as well. There is evidence that the

^a Self-efficacy is defined as the belief in one's ability to succeed in specific situations.

decision to defend a victim depends not only on the perception of the victim as being in need and on a moral assumption of personal responsibility to intervene (Pozzoli & Gini, 2010) but also on peers' and authorities' support for doing so (Rigby & Johnson, 2006).

1.3. School context and defending behavior

Teacher attitudes. A large proportion of students believe that school authorities do little to intervene when bullying occurs (Olweus, 1993). This is especially true when they believe that teachers are tolerant of bullying (Unnever & Cornell, 2004) or ineffective in responding to their problems. In a major study 30% of students believed that teachers were not interested or only sometimes interested in stopping bullying (Rigby, 1996). The perceived lack of interest could be associated with teachers' lack of perceived self-efficacy. In fact, the strongest predictor for teacher intervention in bullying situations has repeatedly been found to be self-efficacy—that is, teachers who feel well prepared to handle bullying situations are more likely to intervene when bullying incidents occur (Novick & Isaacs, 2010).

School climate. A major concern for teachers and schools is to create a safe and emotionally supportive school climate (Alsaker, 2012). An emotionally supportive climate is characterized by a strong sense of safety. Previous research has shown that bystanders' behaviors are affected by students' perceived sense of safety in the classroom (Gini, Pozzoli, Borghi & Franzoni, 2008b). Gini and colleagues (2008b) found that the sense of safety in the classroom was stronger when students engaged in defending behavior. When students perceive the school climate as positive they are more likely to expect to be supported when they stand up for victims.

1.4. Hypotheses

To test whether friends show similar defending behavior, we used a method that allows for disentangling selection and influence effects while controlling for each other (Veenstra & Steglich, 2012). We controlled for reciprocity of friendship and gender. We expect defenders to befriend peers who display similar defending behaviors (H1). We test whether adolescents select peers based on similarities in defending behavior (H1a; Selection effect) or whether they adjust their behavior in order to become more similar to their peers (H1b; Influence effect) or both. Furthermore, we examine whether these processes (selection and influence) result in different degrees of similarity between peers depending on the characteristics of the school environment (H2). We investigate whether teachers' self-efficacy and school climate are related to similarity in defending behavior among befriended peers.

2. Study Design

2.1. Participants

In this paper we present data from a study conducted in Switzerland. The sample consisted of 478 seventh graders (mean age = 13.2, SD = 0.64, 51% females) from seven schools. The number of participating students per school ranged from 58 to 89. Among the students 19% were coded as non-local and 81% were coded as local. Percentages of non-local language students in the schools ranged from 1.7% to 42%.

2.2. Procedure

All parents were informed of the study and invited to tell the teachers if they did not want their children to participate (passive consent). An electronic self-report questionnaire was administered in school and took approximately 60 minutes to complete. Peer nominations (across all classrooms of the same school) were assessed with the students using pencils on paper. Two trained assistants administered the questionnaire and answered all of the students' questions. Students who were absent during the classroom assessment received a

personal login and password and were invited to complete an online questionnaire a few days later at home or in school. Teachers were invited to complete a questionnaire on netbooks gathering information about their perceived self-efficacy as regards bullying behavior and the school climate. The questionnaire took approximately 15 minutes to complete. Students and teachers received a small gift in exchange for their participation.

2.3. Measures

Defending the victim behavior. The students were asked about defending the victim using an adapted version of the participant roles scale (Sutton & Smith, 1999). The items for defending the victim were: “I ask an adult or peer for help”, “I comfort the victim”, “I try to help the victim” (T1: $\alpha = .766$; T2: $\alpha = .750$). A defending scale was created by averaging the three items, with values ranging from 1 (no defending) to 5 (high level of defending) and resulted in T1: $M = 2.95$ ($SD = .98$) and T2: $M = 2.79$ ($SD = 1.02$).

Friendship networks. The students were given a list containing the names of all the students in their school who were participating in the study, and were asked with which students they spent a lot of time outside school. We allowed for unlimited nominations of friends. We aimed to assess voluntary peer networks. Furthermore, the possibility of cross-class nominations overcame the limitation of assessing peers only among those in the same class (Friemel & Knecht, 2009).

Teachers’ self-efficacy with respect to bullying behavior. Teachers’ self-efficacy was assessed using four items adapted from a validated scale (Alsaker, Nägele, Valkanover & Hauser, 2008). The items were: “Teachers have the power to stop bullying behavior,” “I feel uncomfortable around bullying because I don’t know how to act,” “I have few opportunities to recognize bullying at school,” “Teachers play a central role in the emergence and persistence of bullying” ($\alpha = .658$). A mean score was computed for each school (after reverse coding of the respective items), with lower values indicating less self-efficacy and higher values indicating more self-efficacy in stopping bullying ($M = 3.17$; $SD = .32$).

School climate. School climate was assessed using four items adapted from a validated scale (Alsaker et al., 2008). The items were: “The students feel comfortable in my class,” “I like teaching in my class,” “I get along well with my students,” “Other teachers like teaching my class” ($\alpha = .880$). Possible responses ranged from 1 (not true) to 4 (true). A mean score was computed for each school, with lower values indicating a less positive school climate and higher values indicating more positive school climate ($M = 3.66$; $SD = .24$).

2.4. Statistical Analyses

The same micro-level model was estimated for each school separately, using the Unconditional Method of Moment estimations (Snijders, Steglich & Schweinberger, 2007) in RSiena Version 2.13.1. We followed a strategy of forward model selection. The results of all separate school network analyses were combined in a meta-analysis (Snijders & Baerveldt, 2003). It was assumed that parameter values might differ across schools. With the meta-analysis, mean and variance parameter values between schools were tested to identify whether each parameter demonstrated a main effect across schools (by tests of the mean parameter) or whether they differed significantly between schools (by test of the variance). Included effects were tested on the basis of t -ratios defined as estimate divided by standard error. The test of the variance was carried out by means of a chi-squared test. We report the estimated mean parameters with their standard errors, estimated between school standard deviations of the parameters, and the p values of the tests that the parameter variance is 0.

We used a meta-analytic multiple regression approach (DeCoster, 2009) to test for an association between the SIENA parameter estimates (defending selection similarity and defending average similarity) and school context variables (self-efficacy of teacher and school climate).

3. Results

Descriptive Results

The Jaccard Index expresses how much change there is between two consecutive moments (range from 0 to 1 with 1 indicating no change) (Veenstra & Steglich, 2012). The seven schools range from .303 to .474. The Morans I is quite stable indicating that there is no substantial change of networks autocorrelation. The seven schools range from .16 to .26 (t1) and from .17 to .31 (t2).

Meta-analysis of SIENA results

Table 1 presents the results for defending obtained by the meta-analysis of the SIENA results. The upper part relates to the network dynamics and the lower part refers to changes in defending behavior. The networks are typical in the sense that they are characterized by a negative density effect, indicating that ties to arbitrary other students will be avoided. The positive reciprocity effect indicates that there is a preference for mutual peer nominations. The positive transitive triplets effect, together with the negative three-cycles effect can be interpreted as reflecting local hierarchy. In the following the effects are discussed in the same order as they appear in the SIENA analysis and as they are presented in Table 1.

Selection Effects on Defending. Females and males do not differ in the number of nominations received (*sex alter*) and nominations made (*sex ego*). However, girls as well as boys prefer friendships with same-sex peers ($M^{est} = 0.499$; $SE = 0.058$). Furthermore, the average *same class* effect is significant. Students are more likely to nominate peers from their own class as friends. The effects for *defending alter* and *defending ego* are not significant, indicating that defending behavior is not related to the number of friendship nominations. The hypothesis tested in the selection part is that students tend to select friends who show similar defending behavior (H1a). The results indicate that the *defending selection similarity* effect is not significant ($M^{est} = 1.12$; $SE = 0.569$). However, this effect differs significantly between schools ($SD^{est} = 1.313$; $p < .05$). A closer look at the results for each school separately reveals significant effects regarding defending behavior in five out of seven schools (not presented in the table).

We controlled for reciprocity of friendship and gender. We found a stronger similarity effect for females as can be seen from the significant interaction effect of *sex ego x defending selection similarity* ($M^{est} = 0.672$; $p < .05$).

Influence Effects on Defending. Both the *tendency to defend the victim* effect and the *tendency to defend the victim squared* effects are not significant. The hypothesis tested in the behavior part is that adolescents adjust their defending behavior in order to become similar to their friends (H1b). However, the *average similarity* effect is not significant. Finally sex does not have an effect on the level of defending behavior, indicating that given the same conditions boys and girls tend not to differ in the level of defending developed (Table 1).

Table 1. Results from Meta-analysis of SIENA Analyses for Defending (7 Schools)

	Estimated mean parameter	SE	Estimated between school SD	P value of test (parameter of variance = 0)
<i>Selection Part</i>				
Rate	18.60	1.95	4.78	<.001
Outdegree	-1.875***	.109	.289	<.001
Reciprocity	1.108**	.201	.530	<.001
Transitive Triplets	.185***	.022	.057	<.001
3-cycles	-.195***	.026	.069	<.001
Sex				
Alter	.025	.060	.160	<.05
Ego	.044	.083	.220	<.001
Similarity	.499***	.058	.155	<.05
Same Class	.357**	.095	.252	<.001
Defending				
Alter	.065	.039	.102	.298
Ego	-.016	.048	.128	<.05
Similarity	1.120	.569	1.313	<.05
Defending similarity x reciprocity	-.236	.497	1.219	.470
Sex x defending similarity	.672*	.327	.829	.476
<i>Behavior Part</i>				
Rate	1.79	.353	.866	<.05
Linear shape	-.106	.046	.114	.885
Quadratic shape	.079	.08	.196	.857
Average similarity	1.939	1.201	1.023	.934
Effect from sex	.05	.09	.240	.902

* $p < .05$, ** $p < .01$, *** $p < .001$.

Between-school Variances. We found significant variances ($p < .05$) between schools for all effects except for the following: *Defending alter*, *defending selection similarity x reciprocity*, *sex ego x defending selection similarity*, *linear shape*, *quadratic shape*, *average similarity*, and *main effect of sex* (Table 1). A significant between-school variation in the parameter for a particular effect points to differences between the schools with regard to the network-behavior coevolution process. An approximate 95 percent confidence interval for the parameter (assuming normality) can be obtained by adding two estimated true standard deviations below and above the estimated average parameter. An interval that is mainly positive or mainly negative indicates an effect of a consistent sign but of varying magnitude. This is the case for the *sex similarity* effect (estimated mean .499, estimated standard deviation .155, leading to an interval from .189 to .809) and for the *same class* effect (estimated mean .357, estimated standard deviation .252, leading to an interval from -.147 to +.861). When the interval contains important ranges of positive as well as negative values, this indicates the existence of qualitatively different processes in the different schools. This is the case for the *defending selection similarity* effect (estimated mean 1.120, estimated standard deviation 1.313, leading to an interval from -1.48 to +3.72).

Differences between schools

As mentioned above, the test of variance indicates that there are differences between schools (H2). To analyze whether teachers' self-efficacy and school climate were related to defending similarity and average similarity, we used a meta-analytic multiple regression approach (DeCoster, 2009). We found both teachers' self-efficacy and school climate to be significantly associated with the extent to which peers selected others based on similarity in defending behavior. Table 2 illustrates the regression coefficients and standard errors. First, the lower the teachers' self-efficacy, the more adolescents selected peers with similar defending behavior ($Z > -1.96$). Second, the more positive the school climate the more adolescents selected peers with similar defending behavior ($Z > 1.96$). However no significant association was found between teachers' self-efficacy or school climate and defending average similarity (Table 2).

Table 2. Results From Meta-Analytic Regression: School Context Predicting Influence and Selection Effects (7 Schools)

	Regression coefficient (unstand.)	Standard error	Z-value
Defending Selection Similarity			
Bullying	-.879	5.73	-.193
Self-efficacy	- 3.91	1.56	- 3.17
School climate	2.23	2.44	1.16
Defending Average similarity			
Bullying	27.62	8.16	.890
Self-efficacy	7.69	6.30	.290
School climate	8.14	3.34	.628

Note: Z-values $> \pm 1.96$ indicate a significant relationship on the 5 percent level

4. Discussion

The main goal of the present study was to test whether defenders befriend similar peers and whether teachers' self-efficacy and school climate were related to processes of selection and influence as regards peers' similarities in defending. We will first discuss the results, obtained by the Meta-analysis of SIENA (Ripley, Snijders & Preciado, 2012). We will then discuss the results obtained by the meta-analytic multiple regression approach (DeCoster, 2009).

Selection and Influence processes for defending the victim

Our analyses showed that similarity in defending behavior among friends was due to selection rather than influence. We found similarity in defending due to selection in five out of the seven schools.

We found that girls show a greater tendency to select peers based on similar defending behavior. This finding seems to be consistent with previous studies (Rigby & Johnson, 2006) who found that girls were more likely to believe that friends expected them to support the victim. Also because girls have repeatedly been found to show more prosocial behavior (Eisenberg & Fabes, 1998) and tend to be more empathic towards victims of bullying (Menesini et al., 1997) it is more likely that they associate with other prosocial and defending peers.

The main finding in the behavior part of the model was that students did not adjust their defending behavior in order to become more similar to the behavior of their peers. However, previous research has shown that peers influence each other's prosocial behavior (Wentzel, McNamara-Barry & Caldwell, 2004). A possible explanation

for the different result is that—as mentioned above—defending behavior is fundamentally different from prosocial behavior in general (Pozzoli & Gini, 2010). It may be associated with negative costs and consequences for the defender (e.g. being the next victim) and more dependent on the social context than most prosocial behavior.

School-level factors related to defending behavior

We examined whether teachers' self-efficacy and school climate were related to similarities in defending. Results showed that both teacher self-efficacy in handling bullying problems and school climate explain differences in the selection similarity estimates. First, our study revealed that the lower the teachers' self-efficacy the more students selected peers with similar defending behavior. This suggests that if students perceive a lack of self-efficacy in the teacher, they will tend to select peers based on similar defending behavior in order to create a prosocial network that may give them some feeling of security, to compensate for the teachers' lack of self-efficacy and support.

Second, the more positive the school climate, the more students selected peers with similar defending behavior. A possible explanation for this is that in the context of an anti-bullying norm, defenders receive more approval for their behavior and in turn are perceived as more attractive potential friends. Such normative pressure, perceived as expectations by friends and teachers, could have some influence in motivating students to act in a helpful manner (Rigby & Johnson, 2006). This result is in line with the finding that anti-bullying norms contribute to more defender behavior (Salmivalli & Voeten, 2004). Moreover, self-efficacy in the teacher and school climate did not correspond to influence effects.

In sum, our results support previous findings showing that teachers play a central role in bullying intervention. The most interesting finding from our study is, that students seem to compensate—if they perceive that teachers are unable to handle bullying—by grouping with other defenders, thus potentially increasing their power. This implies that it is crucial for students to perceive their school as a safe and secure place.

Limitations and Strengths

One limitation of the current study is that we assessed defending through self-reports. Previous research has shown that measuring defending behavior using self-reports compared with peer-reports may result in an overestimation (Salmivalli et al., 1996; Sutton & Smith, 1999). One strength of our study is that we did not limit students to naming only peers within their class. Friendships within classrooms do not represent the entire social world and friendship selection is limited within the classroom (Friemel & Knecht, 2009). Although students in the present study were asked to nominate students with whom they spend time outside school and not restrict them to classroom nominations, they were more likely to nominate peers from their own class. The use of actor-based models with a short-term longitudinal design, the relatively large sample and the inclusion of factors from multiple social levels are additional strengths of the present study.

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